Vestibular Rehabilitation for a 17-Year Old Female with Post-Concussion Symptoms: A Case Report

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Introduction

Post-concussion syndrome is defined as a group of symptoms occurring after a traumatic brain injury (TBI) that can last weeks, months, or years.[1] The diagnosis of post-concussion syndrome is not well agreed upon, but does include at least three of the following symptoms: headache, dizziness, fatigue, irritability, insomnia, concentration or memory difficulty, and intolerance of stress or emotion.[1] The Centers for Disease Control and Prevention estimates that 1.7 million Americans experience TBI annually.[2]

Purpose

To describe the physical therapy management using vestibular rehabilitation of an adolescent female with post-concussion symptoms two months post-injury.

Case Description

The patient was a 17-year old female with a history of concussion following a syncopal episode who was referred to physical therapy due to her prolonged symptoms. Patient's primary complaints were dizziness and headaches that worsened with activity and quick head movements. Her symptoms were limiting her ability to fully participate in school and work as a waitress.

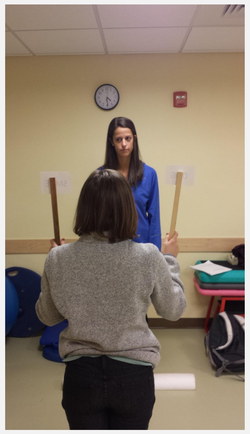
Examination:

Test and Measures	Initial Evaluation
Dynamic Visual Acuity	Horizontal +1 Vertical +1
Modified Dix-Hallpike Maneuver	Negative (bilaterally)
Lateral Test	Negative (bilaterally)
GANS Sensory Organization Test	Sway with #2,4, and 6
Head thrust test	Positive to the right with corrective saccade
Blood Pressure	Sitting: 108/66 mmHg Standing: 90/70 mmHg

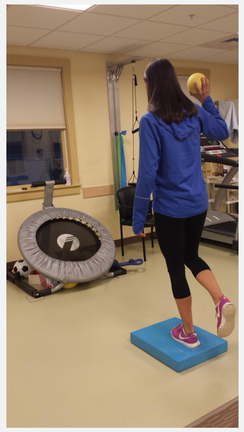
Interventions

Interventions were progressed by altering the patient's standing surface, base of support, completing balance activities with eyes closed and with the addition of a cognitive task, such as naming five colors or counting the months of the year backwards.

Saccades



Static Balance



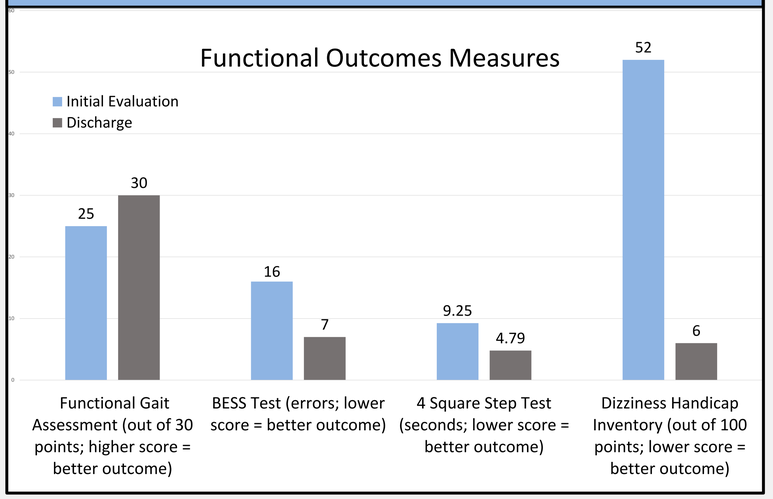
Gaze stabilization

Dynamic Balance

Oculomotor ROM

Static Balance

Outcomes



Discussion

The patient reported improvements in her symptoms of dizziness and headaches. She demonstrated improvement with static and dynamic balance. Overall, the patient's improvements show the potential benefits of vestibular rehabilitation for a patient suffering from post-concussion symptoms that have not improved with rest.

Conclusion

Despite research showing the benefits of vestibular rehabilitation on post-concussions symptoms,[3] further research needs to be conducted comparing subjects who receive vestibular rehabilitation following a concussion and those who recover with rest only.

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References

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